ATTACHMENT J8

110th Fighter Wing Electric Distribution System

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J8 110th FW Electric Distribution System

J8.1 110th FW Overview

The 110th Fighter Wing (FW) of the Michigan Air National Guard (ANG) was established in 1947 at the W. K. Kellogg Airport on the west side of Battle Creek, Michigan. The 110th FW, provides close air support, including the capability to carry out a forward air control role in support of ground forces in combat. The 110th FW is currently assigned 17 A/OA-10 Thunderbolt II aircraft. The current full-time weekday population of the base is 276 people, with a maximum of 935 for an 8-hour period.

The 110th FW occupies 89 acres and contains 37 buildings including headquarters (the buildings are industrial/commercial use). The base leases a total of 319 acres from the City of Battle Creek. This includes 230 acres that are intended for future development with the construction of a new munitions maintenance and storage complex. The munitions maintenance and storage complex is in the planning and design phase, and its construction has not yet been funded.

J8.2 Electric Distribution System Description

J8.2.1 Electric Distribution System Fixed Equipment Inventory

The 110th FW electric distribution system consists of all appurtenances physically connected to the distribution system from the point at which the distribution system enters the Installation and Government ownership currently starts to the point of demarcation, defined by the Right of Way. The system may include, but is not limited to, transformers, circuits, protective devices, utility poles, ductbanks, switches, street lighting fixtures, and other ancillary fixed equipment. The actual inventory of items sold will be in the bill of sale at the time the system is transferred. The following description and inventory is included to provide the Contractor with a general understanding of the size and configuration of the distribution system. The Government makes no representation that the inventory is accurate. The Contractor shall base its proposal on site inspections, information in the technical library, other pertinent information, and to a lesser degree the following description and inventory. Under no circumstances shall the Contractor be entitled to any service charge adjustments based on the accuracy of the following description and inventory.

Specifically excluded from the electric distribution system privatization are:

- Parking lot lighting powered by circuits located inside buildings and 5 poles (with lights) south of Building 6910 .
- Power generator located at fire station

J8.2.1.1 Description

Consumer's Energy supplies electric power to 110th FW's main switch through a 24.9-kilovolt (kV) transmission line that enters the base adjacent to the main gate. Power is distributed to buildings 6922 and 6923 at 24.9 kV, and distributed to the rest of the base at 8.3 kV. Transformers at buildings 6922 and 6923 are single voltage rated for 24.9 kV.

Transformers at other buildings are dual voltage, 8.3 kV and 24.9 kV. Government ownership of the electric facilities starts with the main switch.

The distribution system consists of three-phase, four-wire line rated at 8.32 kV and 24.9 kV; the overhead part totals 3,720 linear feet and the underground part (in conduit) 7,500 linear feet. The eastern part of the base was developed more recently, and primary distribution there is generally underground in concrete encased, 4-inch conduits. Distribution to the rest of the base is generally overhead. The system also includes:

- 22 three-phase transformers ranging from 45 to 1,500 kilovolt amperes (kVA)
- 1 single-phase transformer,15 kVA
- Utility poles (with and without lights attached)
- 15 streetlight fixtures

Construction dates for the underground and overhead circuits, and other system components, range from the 1940s to the 1990s. Most of the underground system was installed in the mid 1990s. The overhead distribution system was installed in the 1940s.

J8.2.1.2 Inventory

Table 1 provides a general listing of the major electric distribution system fixed assets for the 110th FW electric distribution system included in the sale.

TABLE 1
Fixed Inventory
Electric Distribution System 110th FW

Item	Size	Quantity	Unit	Approximate Year of Construction
Underground Circuits	**AWG**	**Length (ft)**		
3ph, 4w, 15000V, in conduit	#4/0	7,100	LF	1995
3ph, 4w, 15000V, in conduit	#4/0	400	LF	1975
Overhead Circuits				
3ph, 4w, 15000V, Conductor	#2 CU	3720	LF	1945
Transformers	**Nom kVA**	**No.**		
3-Phase	45	1	EA	1995
3-Phase	75	3	EA	1995
3-Phase	112.5	4	EA	1995
3-Phase	150	2	EA	1995
3-Phase	225	1	EA	1995
3-Phase	300	3	EA	1994
3-Phase	500	3	EA	1995
3-Phase	750	1	EA	1995
3-Phase	1000	1	EA	1995
3-Phase	150	1	EA	1975
3-Phase	113	1	EA	1965
3-Phase	1500	1	EA	1994
1-Phase	15	1	EA	1965
Utility Poles	**Height (ft)**	**No.**		
Without lights	25	60	EA	1945
With lights	25	14	EA	1945
Lighting Fixtures	**Type**	**No.**		
	Street	6	EA	1985
	Street	9	EA	1975

Notes: AWG = American Wire Gauge
ea = each ph – phase
lf = linear feet V = volts
w = wire
Nom kVA = nominal kilovolt-amperes

J8.2.2 Electric Distribution System Non-Fixed Equipment and Specialized Tools

Table 2 lists other ancillary equipment (spare parts) and **Table 3** lists specialized vehicles and tools included in the purchase. Offerors shall field verify all equipment, vehicles, and tools prior to submitting a bid. Offerors shall make their own determination of the adequacy of all equipment, vehicles, and tools.

TABLE 2
Spare Parts
Electric Distribution System 110th FW

Qty	Item	Make/Model	Description	Remarks
N/A	*None*			There are no spare parts to transfer with this system.

TABLE 3
Specialized Vehicles and Tools
Electric Distribution System 110th FW

Description	Quantity	Location	Maker
There are no vehicles or tools to transfer with the system	None		

J8.2.3 Electric Distribution System Manuals, Drawings, and Records

Table 4 lists the manuals, drawings, and records that will be transferred with the system.

TABLE 4
Manuals, Drawings, and Records
Electric Distribution System 110th FW

Qty	Item	Description	Remarks
1	*AutoCAD R14 drawing*	A composite drawing of base utilities	
1	*Prints*	Copies of applicable prints	
1	*O & M Manual*	For some transformers	

J8.3 Specific Service Requirements

The service requirements for the 110th FW electric distribution system are as defined in the Section C, *Description/Specifications/Work Statement*. The following requirements are specific to the 110th FW electric distribution system and are in addition to those found in Section C. If there is a conflict between requirements described below and Section C, the requirements listed below take precedence over those found in Section C.

- Participate in MISS DIG, and complete AF Form 103 prior to digging.
- Restore disturbed areas after excavations.
- Provide 2 week notification in advance of planned interruptions in commodity service.
- For all privatized lighting fixtures, operations and maintenance of lighting fixtures includes the purchase and replacement of the lighting element and the removal and disposal of replaced lighting element.

J8.4 Current Service Arrangement

The current provider of electric service to 110th FW is Consumers Energy. Electric power annual consumption is 3.6 million kilowatt-hours (kWh). The peak demand for FY98 was

1,100 kilowatts (kW). The base is served by two distribution systems: one at 8.32 kV, and one at 24.9 kV. The 8.32 kV system is supplied through one 1,000 kVA transformer. The 24.9 kV system is supplied through two 500 kVA transformers. Thus, the total transformer capacity is 2,000 kVA. The system appears to be adequately sized for current loads, and based on the projected future peak demands remaining relatively constant, has adequate capacity to accommodate future demands.

J8.5 Secondary Metering

J8.5.1 Existing Secondary Meters

Table 5 provides a listing of the existing (at the time of contract award) secondary meters that will be transferred to the Contractor.

TABLE 5
Existing Secondary Meters
Electric Distribution System 110th FW

Meter Location	Meter Description
6901 Shop Aircraft	Analog
6913 Squadron Ops	EMON DMON model 480400
6917 Fuel Cell/Corrosion Control	Analog
6922 Engine I & R	Siemens 4700
6923 Avionics/Weapons Release	Westinghouse IQ DATA PC US II
6951 POL Control Facility	Analog
6954 Fire Station	EMON DMON model 480400
6903 AGE	Analog
6997 Storage/Shredder	Analog

J8.5.2 Required New Secondary Meters

The Contractor shall install and calibrate new secondary meters as listed in **Table 6**. New secondary meters shall be installed IAW Paragraph C.13, Transition Plan. After installation, the Contractor shall maintain these meters IAW Paragraphs C.3 and J8.6 below. The base personnel will read these meters.

TABLE 6
New Secondary Meters
Electric Distribution System 110th FW

Meter Location	Meter Description
6900 Maintenance Hanger	Install new meters at all locations that allow remote reading capability. Use EMON DMON meters.
6905 Reserve Forces	
6906 Hazmat Pharmacy	
6908 Vehicle Maintenance Shop	
6909 Disaster Preparedness	
6910 Civil Engineering	
6912 Munitions Flight	
6914 Base Supply	
6915 Traffic Check House	
6916 Munitions Maintenance Facility	
6919 ECM Pod Storage Facility	

Meter Location	Meter Description
6925 Munitions Storage Facility	
6940 Base Supply Storage	
6941 Civil Engineering Storage	
6955 Engine Test Facility	
6930 Medical/Dining Facility	
6911Security Police	
6926 Base Shoppette(BX)	
6998 Vehicle Maintenance/WRSK	
6999 Vehicle Storage Facility	

J8.6 Monthly Submittals

The Contractor shall provide the Government monthly submittals for the following:

1. Invoice (IAW paragraph G.2). The Contractor's monthly invoice shall be presented in a format proposed by the Contractor and accepted by the Contracting Officer. Invoices shall be submitted by the 25th of each month for the previous month. Invoices shall be submitted to:

   Name: SMS James Crumrine, 110 CES/CEZ
   Address: 3585 Mustang Ave, Battle Creek MI 49015-5512
   Phone number: (616)969-3342

2. Outage Report. The Contractor's monthly outage report will be prepared in the format proposed by the Contractor and accepted by the Contracting Officer. Outage reports shall be submitted by the 25th of each month for the previous month. Outage reports shall be submitted to:

   Name: SMS James Crumrine, 110 CES/CEZ
   Address: 3585 M ustang Ave, Battle Creek MI 49015-5512
   Phone number: (616)969-3342

3. Monthly Meter Reading Report. The monthly meter reading report shall show the current and previous month readings for all secondary meters. The Contractor's monthly meter reading report will be prepared in the format proposed by the Contractor and accepted by the Contracting Officer. Meter reading reports shall be submitted by the 25th of each month for the previous month. Meter reading reports shall be submitted to:

   Name: SMS James Crumrine, 110 CES/CEZ
   Address: 3585 M ustang Ave, Battle Creek MI 49015-5512
   Phone number: (616)969-3342:

4. System Efficiency Report. If required by Paragraph C.3, the Contractor shall submit a system efficiency report in a format proposed by the Contractor and accepted by the Contracting Officer. System efficiency reports shall be submitted by the 25th of each month for the previous month. System efficiency reports shall be submitted to:

   Name: SMS James Crumrine, 110 CES/CEZ
   Address: 3585 M ustang Ave, Battle Creek MI 49015-5512
   Phone number: (616)969-3342

J8.7 Energy Saving Projects

IAW Paragraph C.3, Requirement, the following projects have been implemented on the distribution system by the Government for energy conservation purposes.

None Identified

J8.8 Service Area

IAW Paragraph C.4, Service Area, the service area is defined as all areas within the 110th FW boundaries.

J8.9 Off-Installation Sites

No off-installation sites are included in the sale of the 110th FW electric distribution system.

J8.10 Specific Transition Requirements

IAW Paragraph C.13, Transition Plan, **Table 7** provides a listing of service connections and disconnections required upon transfer.

TABLE 7
Service Connections and Disconnections
Electric Distribution System 110th FW

Location	Description
None	

J8.11 Government Recognized System Deficiencies

Table 8 provides a listing of system improvements that the Government has planned. The Government recognizes these improvement projects as representing current deficiencies associated with the 110th FW electric distribution system. If the system is sold, the Government will not accomplish these planned improvements. The Contractor shall make a determination as to its actual need to accomplish and the timing of any and all such planned improvements. Capital upgrade projects shall be proposed through the Capital Upgrades and Renewal and Replacement Plan process and will be recovered when the upgrade is put in useful service and, as proposed in Schedule L-3. Renewal and Replacement projects will be recovered through Sub-CLIN AB.

Table 8
System Deficiencies
Electric Distribution System 110th FW

Project Location	Project Description
Repair Electrical Distribution and Street Lighting System	The overhead distribution and street lighting system requires replacement. Replace poles, and wires to meet current standards for an overhead electrical system.
Electrical Manhole North of 6926	Water is collecting in the Electrical Manhole north of building 6926. Repair the manhole to correct the water problem.